



Operations report—1988/89 helicopter gravity survey

by R. G. Richardson

Abstract

In a joint project between the Department and Soloriens Pty Ltd, an area in the Balfour region was covered with a gravity survey at a nominal reading density of one station per square kilometre.

Survey duration—7 days
Helicopter charges—\$23,011
Number of successful stations—384
Number of personnel—3
Cost per station—\$68.08

INTRODUCTION

The total area now surveyed is shown in Figure 1. Survey techniques and philosophy were outlined in Richardson (1986). Appendix 1 details the hours flown and number of stations acquired during the helicopter operations. The gravity base stations used were those of Richardson and Dix (1986).

COSTS

Assume that a field assistant is paid \$19,000 per annum spread over 260 working days, and that the daily travelling expenses rate is \$76. Then the total daily cost of a field assistant is \$149.03. Note that in the following calculations, days scheduled for flying but with bad weather impose both a machine and a labour cost.

Survey duration—14 days
Total helicopter charges—\$37,109
Number of successful stations—546
Number of personnel—3
Cost per station—\$79.43

From the above it is seen that in remote areas with poorly-developed road networks, a helicopter-supported operation remains much cheaper than a ground-supported operation (Richardson, 1987). The cost per station for helicopter acquisition has risen at a rate less than the inflation rate (Richardson, 1986; 1987; 1988).

It is worth noting that, for the last week of the survey when the weather was fine, the cost becomes:

FIELD PERSONNEL

(a) Department of Mines

B. Cox; R. Richardson; M. Triffitt; J. Wright.

(b) Helicopter Resources Pty Ltd

L. Hornsby; N. Osborn

CONCLUSION

The 1988/89 survey in the Balfour area provided a cost-effective coverage. The proximity of a suitable field base resulted in a significantly lower than expected station cost.

REFERENCES

- RICHARDSON, R. G. 1986. Operations report—1985/86 Mt Read gravity survey. *Unpubl. Rep. Dep. Mines Tasm.* 1986/74.
- RICHARDSON, R. G. 1987. Operations report—1986/87 Mt Read gravity survey. *Unpubl. Rep. Dep. Mines Tasm.* 1987/45.
- RICHARDSON, R. G. 1988. Operations report—1987/88 helicopter gravity survey. *Unpubl. Rep. Dep. Mines Tasm.* 1988/11.
- RICHARDSON, R. G.; DIX, M. J. 1986. West Coast gravity tie stations (Revision 1). *Unpubl. Rep. Dep. Mines Tasm.* 1986/79.

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APPENDIX 1

Helicopter survey statistics

Period	Hours flown	Stations acquired
09.3.89–15.3.89	17.5	162
16.3.89–22.3.89	35.6	384

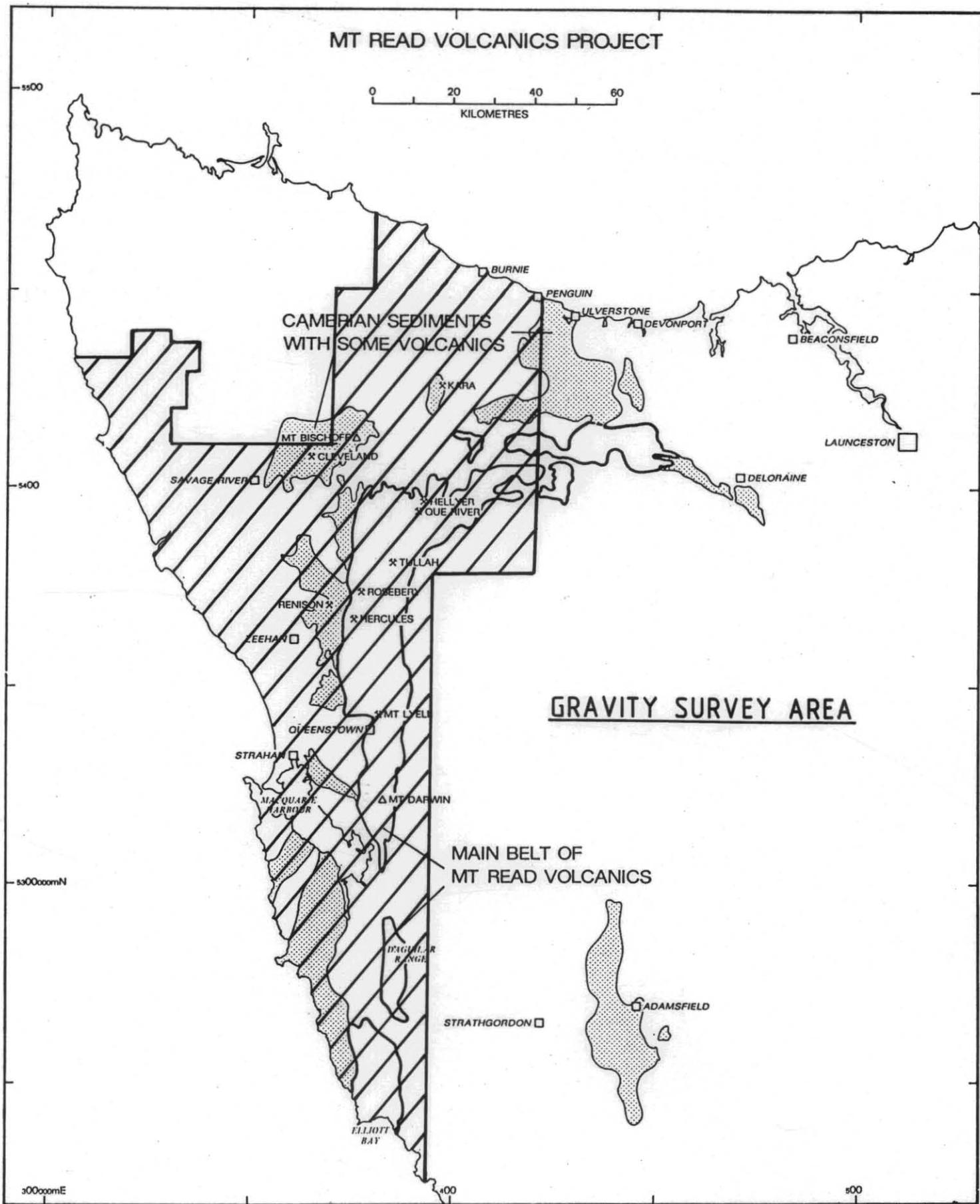


Figure 1.

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